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Given Names	
Student Number	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Teaching Period	Semester 1 2018

FINAL EXAMINATION	DURATION
HIT226 – Mobile Web Structures -	
	Reading Time: 10 minutes
	Writing Time: 180 minutes

INSTRUCTIONS TO CANDIDATES

Answer all sections of this exam.
 There are two sections:
 Section A: Web Technology Questions 60 marks
 Section B: Product Development Questions 40 marks
 Except where indicated all answers should be answered in the examination booklet provided.
 Question 1 should be answered on the exam paper so the exam paper must be handed in with the examination booklets.

EXAM CONDITIONS

You may begin writing from the commencement of the examination session. The reading time indicated above is provided as a guide only.
 This is a CLOSED BOOK examination
 No calculators are permitted
 No handwritten notes are permitted
 No dictionaries are permitted

ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED
No additional printed material is permitted	1 x 20 Page Book 1 x Scrap Paper

**THIS EXAMINATION IS PRINTED
DOUBLE-SIDED.**

**THIS PAGE HAS BEEN INTENTIONALLY LEFT
BLANK.**

Section A Web Technology Questions

Total No of Marks for this section: 50 Marks

Marks for each question are indicated. Suggested time allocation for Section A: 100 mins

Question 1 HTML5

(Marks 3 + 3 + 2 + 1 + 3 = 12)

1.1 Add appropriate *HTML5 structural elements* to content on the following page. (3 marks)

INSTRUCTIONS

- Write your answer **IN THE MARGINS** around the image on the next page of the **EXAMINATION PAPER**
- This question is concerned only with the **HTML5 structural elements**.
- **DO NOT** fully mark up the page

1.2 Justify your use of HTML5 structural elements

(3 marks)

Answer this part of the question in the Answer Booklet provided

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Question 1 HTML 5 cont'd

(Marks 3 + 3 + 1 + 2 + 3 = 12)

Answer all following questions in the Answer Booklet provided

1.3 Which of the following is the most accessible use of an input element? (1 mark)

- (a) `<input type="text" placeholder="First Name" name="fname" id="fname" class="name__input"/>`
(b) `<label for="fname">First Name</label><input type="text" name="firstname" id="fname" class="name__input"/>`
(c) `<label for="name__input">First Name</label> <input type="text" name="firstname" id="fname" class="name__input"/>`
(d) `<label for="firstname">First Name</label><input type="text" name="firstname" id="fname" class="name__input"/>`

1.4 Explain why colour contrast is important? (2 marks)

1.5 Write accessible HTML for the following table? (3 marks)

Kings and Queens

Name	Family	Pet
John Snow	Stark	Ghost
Daenerys Targaryen	Targaryen	Drogon
Cersei Lannister	Lannister	The Mountain

Question 2 Cascading Style Sheets (CSS)

Marks (1 + 1+2 +4+ 4 =12)

Question 2.1 Write CSS to set the box sizing on every element

(1 mark)

Question 2.3 Review the CSS code below.

(4 marks)

Identify the best practices you can see in this CSS

```
h1,  
h2,  
h3,  
h4 {  
    color: #00399e;  
}  
  
.contact-form {  
    width: 80%;  
    margin-left: auto;  
    margin-right: auto;  
}  
  
.contact-form h2 {  
    font-size: 1.2em;  
}  
  
.contact-form label,  
.contact-form input {  
    font-size: 1.1em;  
    color: #515151;  
}  
  
.contact-form input {  
    width: 80%;  
    border-radius: 5px;  
}  
  
.contact-form__tos {  
    font-style: italic;  
}
```

Question 2.5 Explain the purpose of media queries when writing web code. (4 marks)

Answer all following questions in the Answer Booklet provided

Question 3 Javascript

Marks (1 + 1+ 2 + 6 + 6 =16)

Question 3.3 What is the answer to the following equation?

(2 marks)

$5 * (2 + 4) / ("1" + "0");$

Question 3.2 What does the following code do?

(6 marks)

```
var formData = {};  
var inputs document.querySelectorAll(".register__form");  
for(var i = 0; i < inputs.length; i++) {  
    formData[inputs[i].getAttribute('name')] = inputs[i].value;  
}
```

Question 3.3 Write the JavaScript code for the following:

(6 marks)

Bind event listener to button with id “save” to add the “loading” class when it is clicked

Question 4 Web Development

Marks (2 + 6 + 12 = 20)

Question 4.1 Using Git

(2 marks)

List two reasons why you should use git on your projects?

Question 4.2 Folder Structure

(6 marks)

Draw a folder structure for the following files

- Index.html
- About.html
- Contact.html
- Bootstrap.css
- Forms.css
- Cards.css
- Bootstrap.js
- Scripts.js
- Banner.jpg
- Logo.svg
- Telephone.png
- Background.jpg

Question 4.3 Draw a page

(12 marks)

Draw and annotate the following page

```

<!-- exam.html -->
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta name="viewport" content="width=device-width,initial-scale=1">
    <link rel="stylesheet" href="exam.css">
  </head>
  <body>
    <header class="default-header">
      <div class="content">
      <h1 class="title1 text-center">Memory Tools</h1>
    </div>
    </header>
    <main>
      <div class="content">
        <div class="hero-left">
          <h3>Improve your memory</h3>
          <p>This site will provide you with a range of resources to help you improve your ability to learn and recall information for your studies and everyday life.</p>
          <p>You can test your memory before you start, visiting the <a href="/pretest/index.html">Test your memory</a> tool. </p>
          <p>The resources are drawn from the Charles Darwin University MOOC: <strong>The Art and Science of Memory: 5 Keys to Learning</strong>. </p>
        </div>
        <div class="hero-right">
          <div class="card">
          <h2>Test your memory</h2><a href="/pretest/index.html">Try your memory skills against these tests</a>
          </div>
        </div>
        <div class="card-list">
          <div class="card">
          <h2>Peg System</h2><a href="/peg/index.html">Use visual memory</a>
          </div>
          <div class="card">
          <h2>The Periodic Table</h2><a href="/periodic/index.html">Major system mnemonics</a>
          </div>
          <div class="card">
          <h2>Learning Countries</h2><a href="/countries/index.html">Visualisation memory technique</a>
          </div>
          <div class="card">
          <h2>Chunking Method</h2><a href="/chunking/index.html">Elaboration technique</a>
          </div>
          <div class="card">
          <h2>The Guessing Effect</h2><a href="/guessingeffect/index.html">Guessing can help learning</a>
          </div>
          <div class="card">
          <h2>Repetition</h2><a href="/repetition/index.html">Mnemonics and repetition</a>
          </div>
        </div>
      </div>
    </main>
    <footer class="footer-area footer-second">
      <div class="content">
        <p>Created by<a href="http://cdu.edu.au">Charles Darwin University</a></p>
      </div>
    </footer>
    <script src="exam.js"></script>
  </body>
</html>

```

```

/* Exam.css */
/* General page styles */
* {
    box-sizing: border-box;
}
html, body {
    height: 100%;
}
body {
    font-family: "Helvetica Neue", Helvetica, Arial, sans-serif;
    color: #999;
    background-color: #fff;
}
img {
    max-width: 100%;
}
a {
    color: #337ab7;
    transition: all 0.3s ease 0s;
    text-decoration: none;
}
a:hover, a:focus {
    color: #252525;
    text-decoration: underline;
}
p {
    color: #444;
}

/* General content styles */
header,
main,
footer {
    width: 100%;
}
header > .content,
main > .content,
footer > .content {
    width: 100%;
    margin: auto;
}
/* header styles */
header {
    min-height: 41px;
}
header h1 {
    font-size: 3em;
    font-weight: normal;
    color: #444;
    display: inline-block;
    margin: 0;
}
.logo {
    display: inline-block;
}
/* main content styles */
.hero-left,
.hero-right {
    display: inline-block;
    vertical-align: top;
}
.hero-left {
    width: 60%;
}
.hero-right {
    width: 35%;
}

.card-list {
    display: flex;
    flex-wrap: wrap;
}
.card {
    width: 350px;
    box-shadow: 0 5px 25px rgba(0, 0, 0, 0.1);
    margin: 8px;
    border-radius: 5px;
}
.card > h2,
.card > a {
    padding: 8px;
}
.card.card--active {
    transform: scale(1.1);
    box-shadow: 5px 15px 25px rgba(0, 0, 0, 0.1);
    margin-bottom: 5px;
    color: rgb(50, 50, 50);
}
.card--active::before {
    content: 'use this card';
    display: block;
    background: rgb(90, 90, 90);
    color: rgb(240, 240, 240);
    text-align: center;
}
/* footer styles */
footer {
    padding: 40px 0;
    background-color: #f9f9f9;
    text-align: center;
}
/* media queries */
@media (min-width: 768px) {
    header > .content,
    main > .content,
    footer > .content {
        width: 750px;
    }
    header {
        min-height: 63px;
    }
}
@media (min-width: 992px) {
    header > .content,
    main > .content,
    footer > .content {
        width: 970px;
    }
}
@media (min-width: 1200px) {
    header > .content,
    main > .content,
    footer > .content {
        width: 1170px;
    }
}

```

```
/*  
 * exam.js  
 */  
var activeCards = document.querySelectorAll('.hero-right .card');  
console.log('cards', activeCards);  
for(var i = 0; i < activeCards.length; i++) {  
    activeCards[i].classList.add('card--active');  
}
```

Section B Web Product Development Questions

Total No of Marks for this section: 40 Marks

Answer in the Booklet provided.

Marks for each question are indicated. Suggested time allocation for Section B: 70 mins

Question 5 Lean UX

(Marks 5)

According to Gothelf & Seiden (2016) 'Lean UX stands on a number of important foundations: it's a combination of a few different schools of thought' (p. 7)

- i. Outline the foundational schools of thought that Lean UX is derived from. (2 marks)

- ii. Write a definition for Lean UX (2 marks)

- iii. 3 groups of principles inform Lean UX according to Gothelf & Seiden (2016). List the 3 groups. (1 mark)

Question 6: Competitive Analysis

(Marks 10)

(i) What is a Competitive Analysis and how is it useful in digital product development?

(2 marks)

(ii) On the following pages are three different competitor analyses. Review the data presented. Discuss the following:

a. From the data presented, what do you think is the purpose of each analysis?

(3 marks)

b. Which style of presentation do you think would be most useful in a Lean UX environment and why?

(3 marks)










c. Which approach do you think would be most helpful if you were deciding to redevelop a website and why?

(2 marks)

Question 6: Competitive Analysis (cont'd)

(Marks 10)

COMPETITIVE ANALYSIS #1

		Available Platforms			Functionalities			
					Real-time Tracking for NT	Search	View Timetable	View Route on map
NT Bus Tracker		✓	✓	✓	✓	✓	✗	✓
NT Bus Timetable		✓	✓	✗	✗	✗	✓	✓
Path2Go		✓	✓	✗	✗	✓	✓	✓
Citymapper		✓	✓	✓	✗	✓	✓	✓
Moovit		✓	✓	✓	✗	✓	✓	✓
Transit		✓	✓	✗	✗	✓	✓	✓

COMPETITIVE ANALYSIS #2

Level	Criteria	PictureThis	PlantNet	iNaturalist	Plant Finder	PlantSnap	Identify
Basic	Clear Purpose	5	3	4	5	5	5
	Usability	4	3	3	3	4	3
	Clear Layout	4	3	3	4	4	4
	Structured	4	3	3	4	4	4
	Intuitive	4	3	3	4	4	4
Intermediate	Informative	4	3	3	5	4	4
	Accessibility	2	2	3	2	2	2
	Visual Styles	5	2	3	3	4	2
	In-App Search Function	4	2	3	5	4	3
	Cross-platform Support	5	0	5	0	5	5
Advanced	Up-to-date Content	5	4	4	3	4	2
	Loading Speed	4	4	4	3	4	2
	Creativity	5	3	5	3	4	3
	Indexing	4	2	3	2	4	4
	Offline Compatibility	3	2	2	0	3	5
		62	39	51	46	59	52

COMPETITIVE ANALYSIS #3

Apps	Strengths	Weaknesses	Likes	Dislikes
Identify	<ul style="list-style-type: none"> • Clear, large images. • Simple search tool. • Background info about content. • Alternative listing style. • Acknowledgements made. • Images have credits. • Allows submissions of photos. 	<ul style="list-style-type: none"> • Scaling issues. • Index page lacks images. • Displayed info has no hierarchy. • No swiping between pages. 	<ul style="list-style-type: none"> • Images cover the width of device. • Index page (or an "all" page). • Separate page for acknowledgements. • If multiple images, it shows a portion showing it is scrollable. 	<ul style="list-style-type: none"> • Home page has passive magnifying effect on images. • Scaling issues. • Species match has more info tab, but the image is touch responsive, so it is not needed.
PictureThis	<ul style="list-style-type: none"> • Images taken auto match existing plants. • GPS showing locally found plants. • Fairly clean UI. • Scrolling between pages. • UI allows image capture on any page. • Allows upload of already taken images. • Messaging system, can talk to devs. 	<ul style="list-style-type: none"> • Lack of easy find help page. • Map page makes scrolling difficult. • Use of gifs in the help page. • Lack of explanation about help pages. 	<ul style="list-style-type: none"> • Uses two columns to display images. • Some gifs used show how the app works. 	<ul style="list-style-type: none"> • Hard to find help page. • Use of gifs in the help page. • There are other pages that are hidden like help page.
Agrobase - Weeds, disease, insect	<ul style="list-style-type: none"> • Best UI design. 	<ul style="list-style-type: none"> • Requires extra data to be downloaded. 	<ul style="list-style-type: none"> • Home page design. 	<ul style="list-style-type: none"> • Need for extra data download.
Purify	<ul style="list-style-type: none"> • Effectively shows images and info on plants. • Pop up window for more detail info. • forum page allows communication between users. 	<ul style="list-style-type: none"> • Image is not touch responsive. 	<ul style="list-style-type: none"> • pop up window giving detailed info. 	<ul style="list-style-type: none"> • Lack of clickable areas.
Medical Plants	<ul style="list-style-type: none"> • Gallery page allows a variety of images of the same plant. • Personal notes page. 	<ul style="list-style-type: none"> • Quantity of ads. • Use of animated transitions. • Listing style. 	<ul style="list-style-type: none"> • Gallery page. 	<ul style="list-style-type: none"> • Listing style. • Animated transitions.
Info Garden	<ul style="list-style-type: none"> • Simple, effective home page. • Gives origin of plants. • Places gallery at the bottom of the page. 	<ul style="list-style-type: none"> • Poor image style and touch responsive area. • Listing style. • Contrasting colours. 	<ul style="list-style-type: none"> • Division of info into relevant buttons. • Use of origins for plants. 	<ul style="list-style-type: none"> • Poor images.
iNaturalist	<ul style="list-style-type: none"> • First time use includes a tutorial. • Clean UI. • Gives user a number for tallying user inputs. • Allows switching between list and thumbnail view. • Allows users to join projects. • Sign up landing page but is skippable. • Gives info on the current page if there are not entries. 	<ul style="list-style-type: none"> • Beyond first tutorial, no other help page. • Help page links to the website. 	<ul style="list-style-type: none"> • Primary tutorial. • List and thumbnail switching. 	<ul style="list-style-type: none"> • Lack of help beyond first tutorial.
Project NOAH	<ul style="list-style-type: none"> • Graphic designs. • Rotary wheel category selection. • Uses a scout's design theme. 	<ul style="list-style-type: none"> • Current lack of android availability. 	<ul style="list-style-type: none"> • Rotary wheel selection. 	<ul style="list-style-type: none"> • The lack of android platform.

Question 7: Understanding Users

(Marks 10)

According to Cooper et al (2014) personas provide us with a precise way of thinking and communicating about how groups of users behave, how they think, what they want to accomplish and why.

Lean UX uses a form of personas which are called 'proto personas' (Gothelf & Seiden, 2016).

Compare these two persona forms.

(i) Outline the similarities & differences between personas and proto personas. Discuss:

- Preparation
- Research
- Presentation
- Use
- Other

Question 8: Navigation & Information Architecture (Marks 2+2 + 1+ 5 =10)

In today's web world where there is a myriad of digital devices, navigation needs to work across a variety of devices. Using the diagram of a modern web page below, respond to the following tasks:

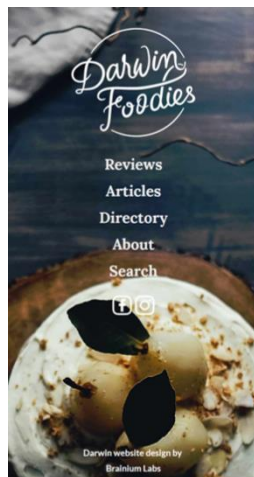
(i) What is information architecture and how does it relate to a site's navigation structure (2 marks)

(ii) Draw the site map /information structure of the site and discuss how this relates to the information architecture above (2 marks)

(iii) Do you think this site is responsive? Why? (1 Mark)

Mock up what the page should look like on a mobile if designed to work across various devices (5 marks)

Question 8: Navigation & Information Architecture (cont)



REVIEW

The Cupcake Field

24 March, 2018 • By Brioche of Tarrh

One Friday arvo I was blessed with a six pack of cupcakes. Oh what a weekend to be!



ARTICLE

5 hidden away places to eat in Darwin

13 March, 2018 • By Brioche of Tarrh

There's some hidden gems in Darwin in the 'burbs that we all know of, but I betcha you haven't heard of a couple on our list of *truly* hidden spots.



ARTICLE

Tropical Kitchen with Accomplice Art Space

14 September, 2017 • By Guest Reviewer

Though the narrow foyer was throbbing with people as per usual, my experience of the Rapid Creek markets was taking place in a low aperture on this lost Sunday morning. My focus was fixed on the sights and smells of the produce, while the hustle bustle was drowned out. Guest written by Potato Puff.



REVIEW

Wow Mom Taiwanese - Ice Cream Popiah

31 August, 2017 • By Brioche of Tarrh

The Taiwanese cuisine is creeping into Darwin and we welcome it with open arms! Come taste the Taiwanese ice cream popiah with us... or better known as the dessert burrito.



ARTICLE

Hilton's Unwine Event

27 August, 2017 • By Guest Reviewer

Hilton Darwin launched their daily Unwine event at their hotel lobby in Mitchell Street - great way to end the day of work! Guest written by Jeff Jape.



ARTICLE

Pop up Indigenous Dinner with Zach Green at The O.A.K

20 August, 2017 • By Brioche of Tarrh

The Original Australian Kitchen (O.A.K) is somewhere *we've been before* and we were thrilled to get tickets to a combo dinner deal mastered by O.A.K head chef Brian O'Keefe and Zach Green, Darwin's upcoming indigenous chef.



ARTICLE

Interview: Kamala Thriemer and Ben Ley from Haensel und Gretel

17 August, 2017 • By Optimus Prime Rib

Medical researchers by day, food truckers by night, Kamala and Ben grew up in Germany and studied in Austria. Now they have brought their love of food to us lucky foodies!

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Question 9: User Experience

(Marks 5)

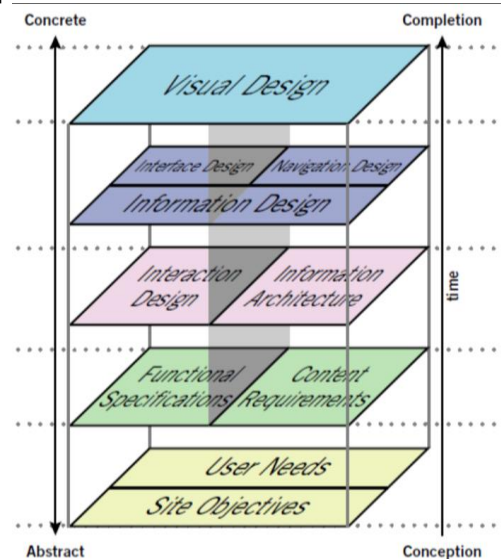
User experience models by Morville (2004) and Garrett (2002) (see Figure 1 and 2 below) have been a central resource in the redevelopment of your web project.

Figure 1: Morville's user experience honeycomb



Source: http://semanticstudios.com/user_experience_design/

Figure 2 Garrett's Elements of User Experience



Source: <http://www.jjg.net/elements/pdf/elements.pdf>

Explain how you have used these user experience frameworks in the redevelopment of your web project. Include the name of the site you have redeveloped.